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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/726,348 | 12/03/2003 | Marion Calmer | USPA0035 | 4001 |

33512 7590 02/08/2006

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| EXAMINER | |
|---|---|
| TORRES, ALICIA M | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3671 | |

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/726,348 | CALMER, MARION | |
| | Examiner | Art Unit | |
| | Alicia M. Torres | 3671 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *17 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) *23-35* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22,36 and 37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *23-35* are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

### *Election/Restrictions*

1. Newly submitted claims 23-35 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the new claims do not require the particular structure or steps presented in the original claims.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 23-35 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### *Claim Objections*

2. Claim 1 is objected to because of the following informalities: "substantially vertical velocity" in line 12 is awkward and unclear. Appropriate correction is required.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 2 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Particularly, it is unclear

how the gearbox ratio is selected to create minimal stalk shear. There is either a method step or a structural relationship missing resulting in a gap, such that one of ordinary skill in the art would not know how, why or when to go about selecting the gearbox ratio for minimal stalk shear.

5. Claim 36 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose an eight tooth gathering chain drive sprocket in combination with a ten tooth gathering chain sprocket. In fact, it appears to the examiner that a ten tooth gathering chain sprocket is never disclosed by the applicant.

6. Claim 37 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose a five tooth gathering chain drive sprocket in combination with a eight tooth gathering chain sprocket. Instead, the applicant mentions the five and eight tooth gathering chain sprockets by comparing them in the alternative.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1, 2, 4-9, 11, 12, 14-19, 22, 36 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. The term "minimal" in claims 1, 2, 12, and 22 is a relative term which renders the claim indefinite. The term "minimal" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear what amount of shearing would be deemed minimal. The specification discloses no means of measuring stalk shear and no starting amount of shear to measure a “minimal” amount from.

10. The terms "minimize" or “minimizing” in claims 4-9, 11, 12, 14-19, 36, and 37 are relative terms which render the claim indefinite. The terms "minimize" and “minimizing” are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Since no absolute stalk shear is given, it is unclear what starting amount of stalk shear to “minimize” from. It is also unclear how much reduction, or at what point, of stalk shear would constitute “minimizing”.

11. The term "increased" in claims 6, 9, 16, and 19 is a relative term which renders the claim indefinite. The term "increased" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be

reasonably apprised of the scope of the invention. It is unclear what amount of increase, and from what starting diameter, would suffice to minimize stalk shear.

12. The term "enlarged" in claims 4, 7, 14, and 17 is a relative term which renders the claim indefinite. The term "enlarged" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear what amount of increase in length would constitute an enlargement and the starting length to enlarge from.

13. The term "reduced" in claims 5, 8, 15, 18 is a relative term which renders the claim indefinite. The term "reduced" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear how much reduction in sprocket size would suffice to minimize stalk shear and from what original size to reduce from.

14. The term "maximum" in claims 1, 2, 12, 22 is a relative term which renders the claim indefinite. The term "maximum" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. There is insufficient information in the disclosure that would lead one skilled in the art to know the maximum ceiling for ear separation or velocity.

## *Claim Rejections - 35 USC § 102*

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Pucher 4,227,366.

17. Regarding claim 1, Pucher discloses a corn head row unit wherein the following method is inherent, the method comprising the steps of:

a. engaging the corn plant (19) with a plurality of stalk rolls (45),

b. pinching the corn plant (19) between said stalk rolls (45),

c. pulling the corn plant stalk (19) down with said stalk rolls (45),

d. separating said ear of corn from the corn plant stalk (19),

e. engaging said ear of corn (19) with at least one gathering chain paddle (42),

f. having the speed of said stalk rolls (45) and gathering chain paddles (42) fixed during operation;

g. wherein the velocity of said gathering chain paddle (42) creates minimal stalk shear; and,

h. wherein the maximum ear separation substantially vertical velocity creates minimal damage to the ear of corn upon impact with the stripper plates (96), as per claim 1.

18. Regarding claims 2-10, Pucher discloses an improved arrangement of a corn head row unit comprising:

a. a source of power (not shown) for rotation,

b. at least one stalk roll (45) for engagement with a corn plant stalk (19),

c. said stalk roll (45) having at least one flute,

d. a stripper plate (96),

e. at least one gathering chain (41) having paddles (42),

f. a gearbox (50) fixing the speed of said gathering chain paddles (42) and said stalk roll flute (45) during operation,

g. wherein the gearbox ratio is selected to create minimal stalk shear; and,

h. wherein the resulting maximum ear separation velocity creates minimal damage to the ear of corn (19) upon impact with the stripper plate (96), as per claim 2; and

two opposing stalk rolls (45) for engagement with a corn plant stalk (19), as per claim 3; and

wherein said stalk rolls (45) have an enlarged length to minimize stalk shear, as per claim 4; and

wherein said gathering chain (41) drive sprocket size has been reduced to minimize stalk shear, as per claim 5; and

wherein said stalk roll (45) diameter has been increased to minimize stalk shear, as per claim 6; and

wherein said stalk rolls (45) have an enlarged length to minimize stalk shear, as per claim 7; and

wherein said gathering chain (42) drive sprocket size has been reduced to minimize stalk shear, as per claim 8; and

wherein said stalk roll (45) diameter has been increased to minimize stalk shear, as per claim 9; and

wherein said row unit (30) has a shear point with a rounded edge, as per claim 10.

19. Regarding claim 11, Pucher discloses a corn head row unit wherein the following method is inherent, the method comprising the steps of:

a. engaging the corn plant (19) with a plurality of rotational elements (45),

b. pinching the corn plant (19) between said rotational elements (45),

c. pulling the corn plant stalk (19) down with said rotational elements (45),

d. separating said ear of corn (19) from the com plant stalk,

e. engaging said ear of corn with at least one horizontal element (42),

f. said horizontal element (42) substantially moving only ears of corn for collection and further processing within the threshing unit of a combine (10),

g. wherein the velocity of said horizontal element (42) minimizes the occurrence of corn plant stalk separation due to corn plant stalk movement restrictions created by said rotational (45) and horizontal elements (42); and,

h. wherein the speed of said rotational (45) and horizontal (42) elements is fixed during operation, as per claim 11.

20. Regarding claims 12-21, Pucher discloses an improved arrangement of a corn head row unit comprising:

a. a source of power (not shown) for rotation,

b. at least one stalk roll (45) for engagement with a corn plant stalk (19),

c. said stalk roll (45) having at least one flute,

d. a stripper plate (96),

e. at least one gathering chain (41) having paddles (42),

f. a gearbox (50) fixing the speed of said gathering chain paddles (42) and said stalk roll flute (45) during operation,

g. wherein the gearbox ratio is selected to produce a gathering chain paddle velocity which minimizes the occurrence of corn plant stalk separation due to corn plant stalk movement restrictions created by said stalk rolls (45) and gathering chain paddles (42); and,

h. wherein the resulting maximum ear separation velocity creates minimal damage to the ear of corn (19) upon impact with the stripper plates (96), as per claim 12; and

two opposing stalk rolls (45) for engagement with a corn plant stalk (19), as per claim 13; and

wherein said stalk rolls (45) have an enlarged length to minimize stalk shear, as per claim 14; and

wherein said gathering chain (41) drive sprocket size has been reduced to minimize stalk shear, as per claim 15; and

wherein said stalk roll (45) diameter has been increased to minimize stalk shear, as per claim 16; and

wherein said stalk rolls (45) have an enlarged length to minimize stalk shear, as per claim 17; and

wherein said gathering chain (42) drive sprocket size has been reduced to minimize stalk shear, as per claim 18; and

wherein said stalk roll (45) diameter has been increased to minimize stalk shear, as per claim 19; and

wherein said row unit (30) has a shear point with a rounded edge, as per claim 20; and

wherein the shear point is removable allowing for replacement, as per claim 21.

21. Regarding claim 22, Pucher discloses an improved arrangement of a corn head row unit comprising:

a. means for engaging a corn plant with a plurality of rotational elements (45),

b. means for pinching a corn plant between said rotational elements (45),

c. means for pulling the corn plant stalk down with said rotational elements (45),

d. means for separating the corn plant ear from the corn plant stalk,

e. wherein the maximum ear velocity allowed creates minimal damage to the ear of corn upon impact with said separation means (45),

f. means (42) for engaging an ear of corn for horizontal movement to an ear collection means and further processing within the threshing unit of a combine (10),

g. wherein the maximum velocity of said means (42) for engaging an ear of corn for horizontal movement creates minimal stalk shear; and

h. a power source (not shown) for said engaging, pinching, pulling and horizontal movement means wherein the speed of said means is fixed during operation.

***Response to Arguments***

22. As can be seen by the 35 USC 112 rejections above, the originally presented claims (1-22) are replete with errors. The claims contain numerous instances of relative terminology leaveing the claims open to interpretation, without substance, and therefore, still rejected under Pucher. The relative terminology makes it unclear as to what sizes and speeds apply to the stalk rolls. For instance, given a certain size or speed, is a reduction/enlargement/increase necessary to reach optimum operating conditions? It would be impossible for one skilled in the art to tell given the disclosure. Even if these values were known, then when would a maximum or minimum of stalk shear be reached? What is a maximum or minimum value? Again, it is impossible to tell given the disclosure.

***Conclusion***

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Torres whose telephone number is 571-272-6997. The examiner can normally be reached Monday through Thursday from 7:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached at 571-272-6998.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 703-305-1113. The fax number for this Group is 571-273-8300.

**Thomas B. Will**
**Supervisory Patent Examiner**
**Group Art Unit 3671**

AMT
February 3, 2006